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MICROPEZIDAE (DIPTERA) FROM THE  
SOLOMON ISLANDS

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AMONG the Diptera collected on Guadalcanal and New Georgia by Clifford O. Berg<sup>1</sup> were five species of Micropezidae that are of exceptional interest, since but a single species of the family has been definitely reported<sup>2</sup> previously from the Solomons group, although Curran<sup>3</sup> has reported the genus *Mimegralla*.

Four new species are included in Berg's material. Descriptions of these new species are here presented, together with notes on a previously described species, a key to the genera of the Taeniapterinae of the African and Oriental regions, and a key to the species of the genus *Gongylocephala*. Types are also cited from a collection made on Guadalcanal by Jean Laffoon and deposited in the United States National Museum.

<sup>1</sup> See C. O. Berg, "Biology and Metamorphosis of some Solomon Islands Diptera, Part I: Micropezidae and Neriidae," *Occ. Papers Mus. Zool. Univ. Mich.*, 503 (1947) for general introduction.

<sup>2</sup> *Mimegralla contingens salomonis* Hennig, "Revision der Tyliden," *Konowia*, 14, 2 (1935): 192, from Shortland Island. Not since reported.

<sup>3</sup> C. H. Curran, "The Templeton Crocker Expedition to Western Polynesian and Melanesian Islands, 1933. No. 30—Diptera," *Proc. Calif. Acad. Sci.*, (4) 22 (1936): 30, "from Malaita Island (Whitney Expedition), a poorly preserved specimen belonging to the genus *Mimegralla* Enderlein."

## SUBFAMILY TREPIDARIINAE

*Eurybata tetras*, new species

MALE AND FEMALE.—Length of body (exclusive of ovipositor in female), 9 mm.; length of wings, 6.5–7 mm.

Color wholly tawny brown, except the following parts: tips of middle and hind tibiae dark brown (especially in male); fore tibiae piceous, except yellowish apical fifth; subapical band of fore femora brown; apical joints of all tarsi brownish; two basal joints of all tarsi whitish; the tomentose mesofrons, dark brown posteriorly and almost black anteriorly, widest between anterior parafrontal bristles, ends roundingly, but with faint anterior prolongation of the dark color, leaving the anterior margin of mesofrons of general body color in extent equal to breadth of anterior part of each parafrontal stripe. There is a bluish glint on parafrontals and vertex, but nowhere else. Abdomen of female becomes piceous apically. Wings rather uniformly light brown, with four whitish spots as follows: a quadrate spot in first posterior cell, occupying full width of cell midway between cross veins; a roundish spot in second posterior cell a little beyond posterior cross vein and immediately below fourth vein, extending from that vein halfway to wing margin; a similar roundish spot directly above the latter and occupying most of the breadth of submarginal cell; a spot near apex of first posterior cell directly below tip of second vein and connected therewith by a narrow extension lying slightly more apicad.

Third and fourth veins separated at tips by distance equal to length of anterior cross vein. Pterostigma obsolete. One pair of dorsocentral bristles present. Copulatory fork of male as figured (Fig. 1, C).

Holotype, male, allotype, female, Guadalcanal, Solomon Islands, 1944 (Clifford O. Berg), in University of Michigan Museum of Zoology; paratypes, one pair, Lunga Valley, Guadalcanal, October, 1944 (Jean Laffoon), in United States National Museum.

The form is very near *Eurybata semilauta* O.S., known only from the Philippine Islands, but differs in the very dark, but

apically pale fore tibiae and in lack of bluish reflection on body. The blackish mesofrons is not "bifid in front" as stated in the description of *E. semilauta*. There are also some differences in the wing pattern.

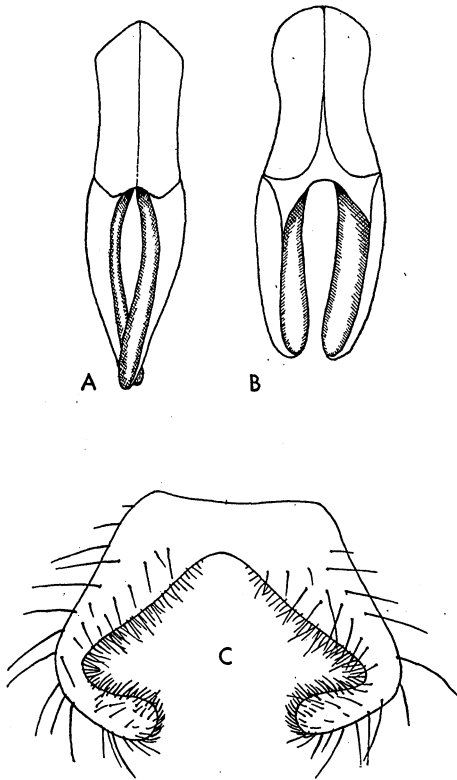


FIG. 1.—Copulatory forks. In *Gongylocephala* spp., rather long hair, especially on mesal faces, is omitted. A. *Gongylocephala atra*, new species. B. *Gongylocephala pallida*, new species. C. *Eurybata tetras*, new species.

#### Genus *Gongylocephala* Czerny

*Gongylocephala* L. Czerny, *Stettiner Entom. Zeitung*, 93 (1932): 292  
(*G. nigrifemur* n.sp., genotype by monotypy).

*Gongylocephala* W. Hennig, *Konowia*, 15 (1936): 136.

Two new species fall easily into this genus, which was based upon a single female from Borneo. Both sexes are present

in the new material, which is in good condition. All the characters cited by Czerny and Hennig are evident, as well as the following: a single pair of strong dorsocentral bristles on mesonotum; second antennal joint on lower side with an outstanding apical bristle which surpasses in length the third joint; three pairs of strong parafrontal bristles; on the mesonotum of the holo- and allotypes of *G. atra*, new species (which are pinned sidewise with *minuten nadeln*), a sharply delimited, oval, flat area extending from the transverse suture to the scutellum and a little wider than the distance between the dorsocentral bristles.

KEY TO KNOWN SPECIES OF *Gongylocephala*

1. All femora yellow; thorax yellowish, except black spot on mesopleura anterior to base of wings (Solomon Islands) ..... *G. pallida* n. sp.  
At least fore femora largely black; thorax more extensively black ... 2
2. Head and thorax largely reddish yellow; fore tibiae whitish yellow (Borneo) ..... *G. nigrifemur* Czerny  
Head largely and thorax wholly black; fore tibiae black (Solomon Islands) ..... *G. atra* n. sp.

*Gongylocephala pallida*, new species

MALE AND FEMALE.—Length of body (in female exclusive of ovipositor), 7 mm.; length of wings, 5 mm.

Color testaceous to reddish yellow except as follows: apex of third antennal joint slightly infuscated; mesopleura with a roundish black spot anterior to root of wings; abdomen of female blackish, male abdomen slightly brownish on mesial segments; narrow apex of all tibiae and base of fore tibiae dark brown; middle tibiae dark brown, grading to yellow basally; middle basitarsi whitish. The long bare arista is black except at extreme base.

Wings hyaline basally, light brown apicad of anterior cross vein, in which area the brown is slightly darker than elsewhere. A parallel-sided, slightly outwardly curved whitish crossband nearly as wide as length of posterior cross vein extends from a point just beyond end of second vein to a point a short distance beyond end of fifth vein. Knob of halteres blackish basally.

Body and legs largely subshining. Upper back of head and parafrenal stripes polished, as is also the larger part of mesopleura and pectus. Definite whitish pruinosity is over the mesopleural black spots (causing them to appear bluish), the sternopleura below pteropleura to base of middle legs, area above fore coxae as far dorsad as spiracle, anterior face of fore coxae, apical band on apparent second abdominal tergite, lower occiput, linear cheeks, and face. A less evident pruinose band extends across the mesonotum anterior to the transverse suture, connecting the mesopleural spots. Venter, especially in male, and indistinct parts of tergites two to four golden yellow pruinose.

All bristles and hairs black, except at apex of last abdominal segment of male, on middle basitarsi, and on plantar brush of fore tarsi, which are yellow.

The copulatory fork of the male is as figured (Fig. 1, B).

Holotype, male, and allotype, female, Guadalcanal, Solomon Islands, 1944 (Clifford O. Berg), in U. M. M. Z.

#### *Gongylocephala atra*, new species

MALE AND FEMALE.—Length of body (in female exclusive of ovipositor), 6–7 mm.; length of wings, 4.5–5 mm.

Color black, except the following brownish yellow parts—Head: vertex, mesofrons, antennae (tip of third joint lightly infuscated), face, prelabrum (dark), palpi. Legs: extreme base of all femora (very little on fore femora), apical third of middle and hind femora, apical two-thirds of hind tibiae grading into the black basal third and excepting a black tip, all tarsi, especially basitarsi and more especially the whitish three basal joints of middle tarsi. Abdomen: hypopygium and (dark) base of copulatory fork of male.

Wings as in *G. pallida*, but the dark part, beginning a short distance basad of anterior cross vein, is blackish basad of preapical whitish band, dark grayish brown apically. Preapical whitish band distinctly outwardly bowed and fully as wide as length of posterior cross vein. Knob of halteres blackish basally.

The only shining parts are upper back of head, parafrontal stripes, lunula, and pectus. All other parts are more or less pruinose. Thorax and abdomen heavily pale bluish gray pruinose, except the following areas of dark brown pruinosity: Band across middle third of anterior mesonotum; whole posterior mesonotum (behind the transverse suture), except near bases of dorsocentral bristles; scutellum; venter; band across middle third of apparent first abdominal tergite; basal three-fifths of tergites two and three, extending to or nearly to apex laterally; ovipositor very lightly brown pruinose.

Bristles and hairs black, except yellow plantar brush of all tarsi, white hairs on joints one to three of middle tarsi, numerous small white hairs on anterior face of fore tibiae, and one to three rows of similar minute hairs on apical half of middle and hind tibiae.

Copulatory fork of male as figured (Fig. 1, A).

Holotype, male, and allotype, female (taken *in copula*), and pair of paratypes, Guadalcanal, Solomon Islands, 1944 (Clifford O. Berg). Holotype and allotype in U. M. M. Z.; paratypes in my collection. There are also three male and two female paratypes, Lunga Valley, Guadalcanal, October, 1944 (Jean Laffoon), in U. S. N. M., and one female, Tenaru River, Guadalcanal, January, 1945 (G. E. Bohar), in California Academy of Sciences.

#### SUBFAMILY TAENIAPTERINAE

##### KEY TO GENERA OF AFRICAN AND ORIENTAL REGIONS

1. Anal cell long, i.e., vein  $Cu_2$  as long as or longer than  $Cu_2 + A$  (Taeniapterini) ..... 2  
    Anal cell short, i.e.,  $Cu_2$  distinctly shorter than  $Cu_2 + A$  (Rainieriini) ..... 3
2.  $Cu_2$  a little or much longer than  $Cu_2 + A$ ; mesonotum anteriorly with two points; postvertical and outer vertical bristles lacking; pterostigma small or nearly absent; femora thickest basad of middle; fore femora below with bristly hairs; fore basitarsus swollen basally; first two abdominal segments petiolately lengthened; arista with isolated hairs (Africa—Sierra Leone to Uganda) ..... *Glyphodera* Enderlein
- $Cu_2$  equalling  $Cu_2 + A$ ; mesonotum anteriorly simple; postvertical and outer vertical bristles present; pterostigma distinct; arista

- practically bare (other important characters, such as shape of femora, armature of fore femora, shape of fore basitarsus, and length of basal abdominal segments, are not cited in the description) (Madagascar) ..... *Paramimegralla* Hennig
3. Mesofrons lacking tomentose area; head projecting before eyes; bristling of head complete, including postverticals; arista bare; femora thickened apically, medially, or basally ..... 4  
 Mesofrons more or less tomentose; head round; postverticals present or absent; arista sometimes hairy; femora thickened at middle or uniformly slender ..... 5
4. Frons wholly smooth; third costal section (between tips of second and third veins) short, but more than half the length of last section of fourth vein; wings with median fascia and apical spot, both of which may be nearly absent; femora thickened toward base (Africa—Togo, Cameroons, and Natal) .....  
 ..... *Cephalosphen* Hennig  
 Frons with oblique black tomentose areas laterad of parafrontal bristles; third costal section long; wings with subbasal and median fasciae and apical spot, all of which may be indistinct; femora thickened basally, medially, or apically (Oriental—Ceylon, Malaya, and Formosa to Solomon Islands) .....  
 ..... *Grammicomyia* Bigot
5. Third costal section half as long as last section of fourth vein or but little longer; if femora are thickened (in middle), then frontal bristles weak or absent; mesofrons more than half total width of frons, uniformly tomentose (Neotropical and African; Syn. *Aristobata* Frey) ..... *Zelatractodes* Enderlein.  
 Third costal section long; femora uniformly slender; frontal bristles distinct ..... 6
6. Mesofrons at most half total width of frons; posterior ocelli in line with or anterior to posterior parafrontals; frontal bristles removed from margin of tomentum of mesofrons (within shining area); first posterior cell always open (Holarctic; Formosan; Neotropical) ..... *Rainieria* Rondani  
 Mesofrons more than half total width of frons; posterior ocelli posterior to posterior parafrontals; frontal bristles just at border of tomentum or surrounded by it; first posterior cell sometimes closed (Africa, Madagascar, widespread in Orient) .....  
 ..... *Mimegralla* Rondani

*Grammicomyia bergi*, new species

MALE AND FEMALE.—Length of body (in female exclusive of ovipositor), 8.5 mm.; length of wings, 5.5 mm.

Head and body as figured (Pl. I, Figs. 1 and 2). Ocellar

region definitely, but not deeply, sunken; an oblique, black tomentose area on each side of frons laterad of parafrontal bristles, anterior to which the frons is uniformly glabrous yellow; face yellow; antennae yellowish, becoming brown at tip of third joint; remainder of head black. Arista black except at extreme base. All hairs and bristles of head black, except on antennae where they are yellowish. Occiput largely, cheeks, and the moderately distinct antennal grooves whitish pruinose. Bristling of head complete with inner and outer verticals, postverticals, and three parafrontals.

Thorax twice as long as broad, wholly black, shining only above hind coxae, elsewhere largely gray pruinose. Anterior "hump" of mesonotum dull black due to very finely transversely rugulose surface. Gray pruinosity heaviest on posterior part of sternopleura (pilulose) and on a round flat area occupying most of the middle of the posterior mesonotum; brown pruinosity on median part of anterior mesonotum (especially near suture), surrounding the flat area of posterior mesonotum, and on scutellum. Chaetotaxy: one pair of strong dorsocentrals, two supra-alars, two notopleurals, one pair of erect apical scutellars, and a fine propleural just above fore coxae. Four slender bristles anterior to each middle coxa.

Legs largely black, subshining. Middle and hind femora yellowish at base for distance somewhat less than greatest diameter of femur, slender apical part grading into brownish. Middle and hind tibiae nearly black at base, grading to brown at apex, extensor setulae small but distinct. Fore tarsi white on basal three joints, ultimate two joints brown; middle and hind tarsi wholly brown, hind basitarsi light brown. All hairs of legs black, except on white joints of fore tarsi and underside of hind basitarsi, where they are whitish.

Wings with venation and pattern as figured, hyaline, veins black, pattern blackish brown. Halteres with yellowish stem, dull gray-black knob.

Abdomen black, except the ensiform, compressed hypopygial process, which is yellowish. Abdomen dark brown pruinose, except pale gray bands at apex of first segment, apex of



second and base of third segment, and narrow apices of third, fourth, and fifth segments, the banding apparently continued on venter. Hairs black, except longish white group on first segment and some fuscous hairs down middorsum of abdomen. Hairs of ensiform hypopygial process yellow. Copulatory fork (Pl. I, Fig. 3) and sternite posterior to it subshining. Ovipositor curved forward almost to base of abdomen, the two segments of which it is composed of equal length, black, and shining.

Holotype, male, Guadalcanal, Solomon Islands, 1944 (Clifford O. Berg), in U. M. M. Z.; allotype, female, and paratype, male, Lunga Valley, Guadalcanal, October, 1944 (Jean Lafoon), in U. S. N. M.

*Mimegralla albimana striatofasciata* Enderlein

*Calobata striatofasciata* G. Enderlein, *Arch. Naturg.*, 88 (A5) (1922): 184 [Ralum, Bismarek-Archipel].

*Mimegralla albimana striatofasciata* (Enderlein) W. Hennig, *Konowia*, 14 (1935): 202.

A considerable series of this form was taken on Guadalcanal and New Georgia by Berg. The subspecies has been found previously only in the Bismarek group of islands, and its occurrence in the Solomons is of interest. The present material has the distinctly banded wing, dull mesonotum, and femoral pattern ascribed by Hennig to the subspecies *striatofasciata*. The hind femora are black with basal yellow ring and yellow apical third, the latter rather indistinctly brown in its median third. *Cyclospheon kröberi* Czerny, cited by Hennig as a synonym of *striatofasciata*, was described as having the apical paler coloration of the hind femora "*kaum wahrnehmbar*." The type of *striatofasciata*, however, lacked middle and hind legs and abdomen.

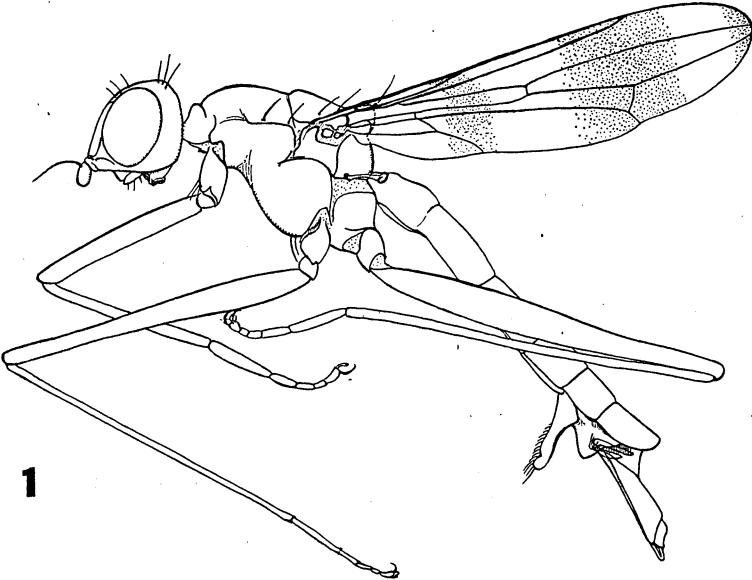
PLATE I

*Grammicomyia bergi*, new species, holotype male.

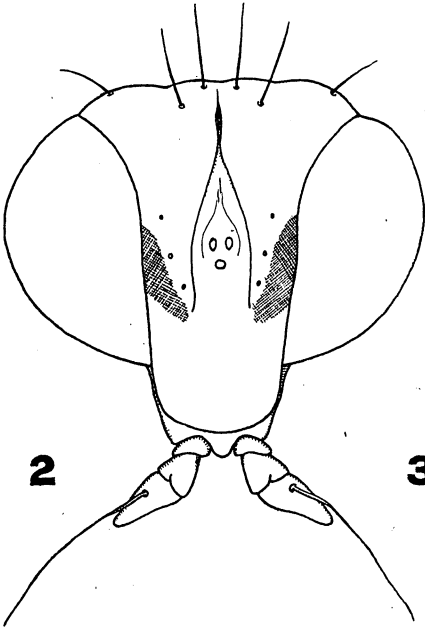
FIG. 1. Lateral view of entire insect (color pattern indicated for wings only).

FIG. 2. Dorsal view of head.

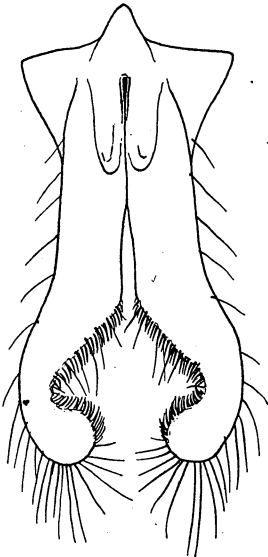
FIG. 3. Ventral view of copulatory fork.



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